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NORTHEASTERN FOREST EXPERIMENT STATION
UPPER DARBY, PA. V. L. HARPER, DIRECTOR

Unusual cause of death in red pine plantation

IN THE SUMMER of 1950, an inspection of a 20-year-old red pine plantation in eastern Connecticut showed that two potential crop trees were in an unhealthy condition. On one, the upper part of the crown was dead; on the other, the needles toward the tips of the live crown had become yellow. All the other trees appeared to be healthy. There was no apparent reason why these two trees should have been in an unhealthy condition.

Search for a reason revealed the fact that in 1949 a large experiment in treating green thinnings by a sap-stream method to preserve them against decay had been carried out at various points within the plantation. Whole trees and parts of trees removed in thinnings had been impregnated with zinc chloride, which is an effective preservative agent. Although the workers were careful and did not recall having spilled any of the treating solution, it appeared possible that the containers may have leaked, allowing a lethal quantity of the treating solu-

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tion to enter the soil and to be taken up by the trees.

To test this hypothesis, the two trees were bored and a standard test for zinc chloride was made. The test indicated the presence of the chemical in the wood. The poorest of the two sick trees was felled and traces of the chemical were found 18 feet above the butt.

This situation indicates that zinc chloride should not be used carelessly in or around trees. If a sap-stream method of preservative treatment is used, care must be taken not to spill the chemicals or to use leaky containers.

--R. H. Fenton

1-Man chain saw may save manpower in logging white pine

WITH THE DEFENSE EFFORT claiming a larger share of manpower in the Northeast, labor shortages threaten to become a major bottleneck in logging white pine. Logging must be done as efficiently as possible if defense and civilian needs for wood are to be met with the limited number of woods workers available.

Production records from cuttings on the Massabesic Experimental Forest in southeastern Maine suggest that about 1½ man-hours per 1,000 board feet can be saved in felling, limbing, and bucking by the use of 1-man chain saws instead of 2-man saws.

This saving seems to hold, in average size of logs, for a range of 11 to 26 logs per

1,000 board feet. Of course the man-hours required for either size saw went up sharply as size of logs went down. Hemlocks and rough pine trees also increased the man-hour requirement.

The manpower savings from the 1-man saw should be taken as indicative only, because the records were not from an experiment designed to compare the two saws. The 2-man saw was used to cut 367,000 board feet of standing timber; the 1-man saw was used, chiefly in blowdown, to cut 189,000 board feet. Moreover, a single individual did all the cutting with the 1-man saw. So the size of the saving is subject to further check and correction.

--D. R. Gedney and T. W. McConkey

Deer browsing in New Jersey handicaps pine seedlings

IN A SINGLE WINTER, deer often damage more than half of the pitch and shortleaf pine reproduction in some parts of the New Jersey Pine Region. Practically all this damage is done during the dormant season. What are the effects of this browsing?

Small studies started in 1949 show that during the last year browsing did not increase mortality, but did affect height growth. Seedlings whose leaders had been browsed gained in height only about one fifth as much as undamaged seedlings. Although some seedlings were not browsed at all, the average height growth of all pines on unprotected study areas was little more than one half that on study areas fenced to keep deer out.

This reduction in height growth is important. The damaged pines are handicapped in their race for survival against the competing hardwoods. Thus the deer tend to lower the representation of pines--the more valuable wood--in the maturing stands. --S. Little and H. A. Somes

Cost of prescribed burning continues to go down

THE COST OF using prescribed fires as a silvicultural treatment in the NEW JERSEY PINE REGION is still decreasing. The average cost of thus treating forest tracts in the Lebanon State Forest was 24 cents an acre in the winter of 1946-47, but only 13 cents in 1949-50. This was based on $1 per man-hour, excluding travel time.

Part of the cost reduction may be due to the more extensive use of prescribed burning. 835 acres were treated in the winter of 1946-47, but 1,920 acres in 1949-50.

The increased experience of the crews doubtless helped cut the cost. During the last 3 years the two crews used in the Lebanon Forest have cut their costs by 1 cent and 14 cents per acre. Charges for treating private land have also dropped. Prior to last winter, the cheapest burns made on private lands by special crews cost 24 cents per acre, but last winter 1,400 acres in one holding were treated at an average cost of 10 cents an acre. The chiefs of these crews received $1.25 an hour, the other men, $1 an hour.

--H. A. Somes